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                 CAplus coverage extended to include traditional medicine
                 patents
NEWS 22
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                 EMBASE, EMBAL, and LEMBASE reloaded with enhancements
NEWS 23
         OCT 02
                 CA/CAplus enhanced with pre-1907 records from Chemisches
                 Zentralblatt
         OCT 19
NEWS 24
                 BEILSTEIN updated with new compounds
NEWS EXPRESS
              19 SEPTEMBER 2007: CURRENT WINDOWS VERSION IS V8.2,
              CURRENT MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP),
              AND CURRENT DISCOVER FILE IS DATED 19 SEPTEMBER 2007.
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L1 1 DE 19541339/PN (DE19541339/PN)

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L1 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1997:410587 CAPLUS

DOCUMENT NUMBER: 127:36664

ENTRY DATE: Entered STN: 03 Jul 1997

TITLE: Recovery of carbon monoxide from nitrogen-contaminated gas mixture containing hydrogen, carbon monoxide, and

methane

INVENTOR(S): Fabian, Rainer
PATENT ASSIGNEE(S): Linde Aq, Germany

SOURCE: Ger. Offen., 11 pp.

CODEN: GWXXBX

DOCUMENT TYPE: Patent LANGUAGE: German

INT. PATENT CLASSIF.:

MAIN: C01B031-18 SECONDARY: C01B003-50

ADDITIONAL: C07C009-04; C07C051-15

CLASSIFICATION: 49-2 (Industrial Inorganic Chemicals)

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO. KIND DATE APPLICATION NO. DATE

DE 19541339 A1 19970507 DE 1995-19541339 19951106 <--

DE 19541339 B4 20060810

PRIORITY APPLN. INFO.: DE 1995-19541339

PATENT CLASSIFICATION CODES:

PATENT NO. CLASS PATENT FAMILY CLASSIFICATION CODES

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DE 19541339 ICM C01B031-18

ICS C01B003-50

ICA. C07C009-04; C07C051-15

IPCI C01B0031-18 [I,A]; C01B0031-00 [I,C\*]; C01B0003-50

[I,A]; C01B0003-00 [I,C\*]

**IPCR** C01B0003-00 [I,C\*]; C01B0003-50 [I,A]; C01B0031-00

[I,C\*]; C01B0031-18 [I,A]; F25J0003-02 [I,A];

19951106

F25J0003-02 [I,C\*]; F25J0003-06 [I,A]; F25J0003-06

[I,C\*]

ECLA C01B003/50D; C01B031/18; F25J003/02A6; F25J003/02C14;

F25J003/02C10; F25J003/06C10

## ABSTRACT:

The procedure involves (1) cooling and partial condensation of a H2-CO-CH4 mixture containing N2, (2) withdrawal of 1st H2-rich gaseous fraction, (3) charging of a H2-CO-CH4-N2 condensate to a H2-stripping column, (4) separation of a 2nd H2-rich fraction and a CO-rich fraction containing CH4 and N2, (5) separation of the latter fraction in a 1st rectification column to obtain a N2-rich fraction and CO-rich fraction containing CH4, (6) charging of the latter fraction into a 2nd rectification column to obtain a high-purity CO fraction and a CH4-containing fraction.

SUPPL. TERM: INDEX TERM:

carbon monoxide recovery cryogenic distn 630-08-0P, Carbon monoxide, preparation

ROLE: PUR (Purification or recovery); PREP (Preparation) (recovery of carbon monoxide from nitrogen-contaminated

gas mixture containing hydrogen, carbon monoxide, and methane)

INDEX TERM: 74-82-8, Methane, processes 1333-74-0, Hydrogen, processes

7727-37-9, Nitrogen, processes

ROLE: REM (Removal or disposal); PROC (Process) (removal in recovery of carbon monoxide from

nitrogen-contaminated gas mixture containing hydrogen, carbon

monoxide, and methane)

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L2 1 EP 0933330/PN

(EP933330/PN)

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L2ANSWER 1 OF 1 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

1999:505775 CAPLUS

DOCUMENT NUMBER:

131:131939

ENTRY DATE:

Entered STN: 16 Aug 1999

TITLE:

Separation of carbon monoxide from

nitrogen-contaminated gaseous mixtures also containing

hydrogen

INVENTOR(S):

McNeil, Brian Alfred; Truscott, Alan Geoffrey

PATENT ASSIGNEE(S): Air Products and Chemicals, Inc., USA

SOURCE:

Eur. Pat. Appl., 8 pp. CODEN: EPXXDW

DOCUMENT TYPE:

Patent

LANGUAGE:

English

INT. PATENT CLASSIF.:

MAIN:

C01B003-50

SECONDARY:

CLASSIFICATION:

49-9 (Industrial Inorganic Chemicals)

FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

EP 933330		A2 19	990804	EP 1999-300	586	19990127 <
EP 933330		A3 20	010718			
EP 933330		B1 20	030611			
R: AT,	BE, CH,	DE, DK, E	S, FR, GB	, GR, IT, LI	, LU, NL, S	E, MC, PT,
IE,	SI, LT,	LV, FI, R	)			
US 6070430		A 20	000606	US 1999-2409	942	19990129
PRIORITY APPLN.	INFO.:			GB 1998-223	1 A	19980202
PATENT CLASSIFICATION CODES:						
PATENT NO.						
EP 933330						
11 333330		F25J003-02				
		I C01B0003-50 [ICM,6]; C01B0003-00 [ICM,6,C*];				
	1101	F25J0003-0		, сотвоооз о	o (ICM, o, c	1,
	IPCR			C01B0003-50	[I,A]; C01	B0031-00
		[I,C*]; C0	1B0031-18	[I,A]; F25J0	0003-02 [I,	A];
				F25J0003-06		
		[I,C*]				
	ECLA	C01B003/50	D; C01B03	1/18; F25J001	3/02A6; F25	J003/02C14;
		F25J003/02	C10; F25J	003/06C10		
US 6070430	IPCI	F25J0003-0				
	IPCR			C01B0003-50		
				[I,A]; F25J0		
			2 [I,C*];	F25J0003-06	[I,A]; F25	J0003-06
		[I,C*]			•	
		062/620.00				
	ECLA			1/18; F25J003	3/02A6; F25	J003/02C14;
		F25J003/02	C10; F25J	003/06C10		

APPLICATION NO.

## ABSTRACT:

PATENT NO.

Carbon monoxide is separated from a gaseous mixture containing hydrogen and carbon monoxide and contaminated with nitrogen by partially condensing the mixture to provide a hydrogen-enriched vapor feed fraction and a carbon monoxide-enriched liquid feed fraction; separating nitrogen from carbon monoxide in said liquid fraction

in a distillation column to provide nitrogen-freed liquid carbon monoxide bottoms and

nitrogen-enriched vapor overheads; condensing at least a portion of the overheads against a recycle heat pump stream derived from the gaseous mixture and containing hydrogen and carbon monoxide; and returning at least a portion of said condensed overheads to said nitrogen-separation column as reflux. The recycle heat pump stream usually is provided by condensation from the hydrogen-enriched vapor feed fraction and/or by separation from the carbon monoxide-enriched liquid feed fraction.

SUPPL. TERM: carbon monoxide sepn nitrogen removal INDEX TERM: Condensation (physical)

KIND

DATE

DATE

Distillation

Distillation columns

Separation Synthesis gas

(separation of carbon monoxide from nitrogen-contaminated

gaseous mixts. also containing hydrogen).

INDEX TERM: 630-08-0P, Carbon monoxide, preparation 1333-74-0P,

Hydrogen, preparation

ROLE: PUR (Purification or recovery); PREP (Preparation) (separation of carbon monoxide from nitrogen-contaminated

gaseous mixts. also containing hydrogen)

INDEX TERM: 7727-37-9, Nitrogen, processes

ROLE: REM (Removal or disposal); PROC (Process)

(separation of carbon monoxide from nitrogen-contaminated

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            1 EP 0928936/PN
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                (EP928936/PN)
=> d 13 iall
    ANSWER 1 OF 1 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER:
                      1999:457950 CAPLUS
                       131:75743
DOCUMENT NUMBER:
                       Entered STN: 27 Jul 1999
ENTRY DATE:
                       Separation of carbon monoxide from
TITLE:
                       nitrogen-contaminated gaseous mixtures
INVENTOR(S):
                       McNeil, Brian Alfred; Scharpf, Eric William
                       Air Products and Chemicals, Inc., USA
PATENT ASSIGNEE(S):
SOURCE:
                       Eur. Pat. Appl., 31 pp.
                        CODEN: EPXXDW
DOCUMENT TYPE:
                        Patent
LANGUAGE:
                        English
INT. PATENT CLASSIF.:
           MAIN:
                        F25J003-02
                        49-9 (Industrial Inorganic Chemicals)
CLASSIFICATION:
                        Section cross-reference(s): 47
FAMILY ACC. NUM. COUNT:
PATENT INFORMATION:
    PATENT NO.
                       KIND
                              DATE
                                        APPLICATION NO.
                                                                DATE
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    EP 928936
                              19990714 EP 1999-300070
                        A2
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                        В1
                              20021218
        R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
            IE, SI, LT, LV, FI, RO
    US 6062042
                        Α
                              20000516
                                          US 1999-225068
                                                                19990104
PRIORITY APPLN. INFO.:
                                          GB 1998-693
                                                             A 19980113
PATENT CLASSIFICATION CODES:
 PATENT NO.
                CLASS PATENT FAMILY CLASSIFICATION CODES
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                      ______
EP 928936
                      F25J003-02
                ICM
                IPCI
                      F25J0003-02 [ICM, 6]
                IPCR
                      F25J0003-02 [I,C*]; F25J0003-02 [I,A]; F25J0003-06
                       [I,C*]; F25J0003-06 [I,A]
                ECLA
                      F25J003/02A6; F25J003/02C14; F25J003/02C10;
                      F25J003/06C10
US 6062042
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                      F25J0001-00 [ICM,7]
                IPCR
                      F25J0003-02 [I,C*]; F25J0003-02 [I,A]; F25J0003-06
                       [I,C*]; F25J0003-06 [I,A]
                NCL
                       062/625.000; 062/632.000; 062/920.000
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## ABSTRACT:

**ECLA** 

Carbon monoxide is separated from a gaseous mixture containing hydrogen and contaminated

F25J003/06C10

with nitrogen by separating hydrogen and carbon monoxide contents to provide a carbon monoxide-enriched nitrogen-containing stream and separating carbon monoxide and

F25J003/02A6; F25J003/02C14; F25J003/02C10;

nitrogen contents of the stream in a nitrogen-separation column to provide a nitrogen-enriched overheads vapor and a nitrogen-freed bottoms. The overheads vapor is washed with liquid nitrogen to remove carbon monoxide therefrom and the resultant carbon monoxide-enriched liquid nitrogen is returned to the column as addnl. reflux. The liquid nitrogen wash simultaneously reduces the loss of carbon monoxide with the nitrogen-enriched vapor and provides refrigeration to

the process. When the gaseous feed is a synthesis gas also containing methane, the methane and carbon monoxide contents can be separated before or after separation of the

nitrogen and carbon monoxide contents.

SUPPL. TERM: sepn carbon monoxide nitrogen contaminated gas; synthesis

gas carbon monoxide sepn

INDEX TERM: Separation

(cryogenic; separation of carbon monoxide from

nitrogen-contaminated gaseous mixts.)

INDEX TERM: Synthesis gas

(separation of carbon monoxide from nitrogen-contaminated

gaseous mixts.)

INDEX TERM: 74-82-8P, Methane, preparation 1333-74-0P, Hydrogen,

preparation

ROLE: PEP (Physical, engineering or chemical process); PUR

(Purification or recovery); PREP (Preparation); PROC

(Process)

(separation of carbon monoxide from nitrogen-contaminated

gaseous mixts.)

INDEX TERM: 630-08-0P, Carbon monoxide, preparation

ROLE: PUR (Purification or recovery); PREP (Preparation)

(separation of carbon monoxide from nitrogen-contaminated

gaseous mixts.)

INDEX TERM: 7727-37-9, Nitrogen, processes

ROLE: REM (Removal or disposal); PROC (Process)

(separation of carbon monoxide from nitrogen-contaminated

gaseous mixts.)